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NOTE

The seventeenth volume of MINERALOGICAL ABSTRACTS contains 6,094 abstracts and citations of papers and also notices of 183 books and 13 bibliographies. The abstracts are grouped under the seventeen sections shown below. Some of the more lengthy headings have been subdivided as seemed appropriate in particular issues and the large section Rock-forming minerals and petrology has in every number been grouped into the sub-sections Rock-forming minerals ; Petrology, general ; Petrology, igneous ; Sedimentary petrology ; Metamorphism ; and, on occasion, Volcanology appears as a sub-section.

Place-names are, in general, in the form used in the Columbia-Lippincott Gazetteer of the World (1952). Alternative forms are given on occasion. Geographical abbreviations used are : Co. County ; Is. Island ; L. Lake, Loch, Lough ; Mt(s). Mountain(s) ; R. River.

The Indexes have been prepared by O. Bradley with assistance from V. C. Findlay, G. W. Flinn, J. Macqueen, E. M. Sheffield, and G. Thomas.

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Grateful thanks are offered to the ladies and gentlemen who have obliged us by notices of errors in volume 17 and in earlier volumes of MINERALOGICAL ABSTRACTS.

ORGANIZATION OF ABSTRACTS

Arising from a decision taken at the meeting of the INTERNATIONAL MINERALOGICAL ASSOCIATION in Copenhagen in 1961 the Mineralogical Societies of America and Great Britain agreed to issue a joint statement to National Societies adhering to the Association inviting each Society to organize contributions of abstracts of papers published in the journals of its country on subjects relevant to *Mineralogical Abstracts*. This invitation was issued and has brought a gratifying response. Members of Societies which have agreed to co-operate in this way are entitled to receive *Mineralogical Abstracts* for their personal use at a reduced rate of subscription on application *which must be made through their National Society.* The countries now co-operating include : AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CZECHOSLOVAKIA, DENMARK, EGYPT, FINLAND, GERMANY, INDIA, ISRAEL, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, PAKISTAN, PORTUGAL, SPAIN, SWITZERLAND. Individual mineralogists and petrologists in countries not represented in the Association, or not yet co-operating through their National Society, provide abstracts from the literature of ARGENTINA, BRAZIL, KENYA, MEXICO, and SOUTH AFRICA.

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ERRATA AND ADDENDA

(L, M, R indicate left, middle, right column ;
* indicates counted from bottom.)

Mineralogical Abstracts, vol. 10

PAGE	LINE	
587R	18–19*	entry for *Copper World mine* should be under Arizona

Mineralogical Abstracts, vol. 11

574L	27	for *Middleton* read *Middletown*
574R	3	*after* 18 *add* , 201

Mineralogical Abstracts, vol. 12

4	6*	*for* 1950 *read* 1951
174	9	*for* J. Lawrence *read* J. Laurence

Mineralogical Abstracts, vol. 15

iiiL (Errata)	19*	*for* crystallographic *read Cristallographie*
ivR (Errata)	22*	*for* **33**–73 *read* **33**–172
—	6*	*for* **12**–12 *read* **12**–121
40L	14*	*for* Eight-seven *read* Eighty-seven
327L	8*	for *aluminium* read *aluminum*
327R	23	for *Raasche* read *Rasche*
335R	13	*for* ying *read* lying
345R	7*	*for* haggite *read* häggite
358R	22	*after* Mrose (M. E.) *add* & Rose (H. J.)
362R	10	*for* *c* 5·63Å *read* *c* 5·36Å
364L	10*	*for* 85–99 *read* 95–99
365R	1	*after* $(O,OH)]_4$ *add* $4H_2O$
—	3	*for* o *read* of
417R	4	for *CmCm* read *Cmcm*
441L	4	*for* Oztunali *read* Öztunali
—	10	*for* county *read* County
458L	9	*for* D_2 *read* $D^5{}_2$
465R	5*	*for* authophyllite *read* anthophyllite
480L	12	*for* Gaudrak *read* Gaurdak
486L	6*	*for* synchisite *read* synchysite
512L	16*	for *Roll* read *Role*
512R	7	*for* Yukio (Takano) *read* Takano (Yukio)
—	9*	*for* 3 p.p.m. *read* 3 p.p.b.
527L	21	*for* *b* 3·581 *read* *b* 5·581
539L	12*	*for* [100] *read* [? 100]
542L	9*	*after* Zeraltite *add* [ceraltite]
561R	25	*for* 11–39 *read* 1–39
561R	28	*for* upper *read* Upper
585R	35	*for* Hewett *read* Hewitt
—	37	*for* — *read* Hewett (D. F.)

Mineralogical Abstracts, vol. 16

4L	1	*for* (J. Lawrence) *read* (J. Laurence)
5R	2*	*for* usin *read* using
43R	2	*for* 1957 *read* 1962
45R	21	*after* Soc., *add* 1962,
52L	20	*for* Emiliana *read* Emiliani
55R	3*	*for* *P*1 *read* $P\bar{1}$
64L	17	*for* Tota *read* Total
65L	1*	*for* psudohexagonal *read* pseudohexagonal
68L	11*	*for* $\bar{Z}=2$ *read* $\bar{Z}=4$
82R	2	*for* **16**–80 *read* **16**–83
117R	6	*for* More *read* Moore
123R	10	*after* Forsch.-H, *add* 1962,
124R	7	*for* directly *read* directed
145R	7	*for* Llanwrst *read* Llanrwst
160L	28	*for* Preceding *read* Following
176R	13*	*for* $Fe^{II}Al$ *read* $Fe^{III}Al$
181L	13*	*for* *P*/4*nmm* *read* *P* 4/*nmm*
182R	23	*for* (D.F.) *read* (D,F)
—	24	*for* Dana *read* Danø ; *for* **14**–371 *read* **14**–370
189L	4*	for *Betrag* read *Beitrag*
231R	8	*for* g/cm² *read* g/cm³
237R	1	*for* KHF_3 *read* KHF_2

Mineralogical Abstracts, vol. 16 (*contd.*)

PAGE	LINE	
239R	14*	*for* (J.V.) *read* (J.K.)
240L	3	*for* $7·5 *read* $0·75
240R	2	*for* einem *read* seinem
247R	3	for *Pbn*2 read $Pbn2_1$
250R	13	for *Salzhydrat* read *Salzhydrate*
258L	23	*for* Showmaker *read* Shoemaker ; *for* 000 *read* 29
263L	5	*for* $NaHCO_2$ *read* $NaHCO_3$
—	8*	*for* paramels- *read* pararamels-
267R	6*	*for* Sippell *read* Sippel
268R	17	*for* $0·46\times^{10-9}$ *read* $0·46\times10^{-9}$
269L	20	*for* ambitization *read* albitization
281R	16	*for* parsonite *read* parsonsite
282R	26	*for* *c* 17·25 *read* *c* 17·025 ; *for* a_{rh} 7·045 *read* a_{rh} 6·98
—	27	*for* α 60°03′ *read* α 60°38′
283R	2*	*for* norstrandite *read* nordstrandite
284L	2, 18, 19	
285L	13	*for* 937–946 *read* 937–943
285L	24*	*for* Докп. *read* Докл.
297L	19	for *Hop* read *Hopi*
309R	17	*for* generally °/₀₀ *read* generally 1°/₀₀
319R	14*	*for* Pend-Orielle *read* Pend Oreille
321L	8*	for *Enstehung* read *Entstehung*
347R	25	*for* principle *read* principal
348L	29	*for* Schifferville *read* Schefferville
369R	13	*for* usite *read* lusite
373L	8	*for* Net *read* Ned.
386R	12*	for *in* read *im*
431R	20	for *hidrometalugria* read *hidrometalurgia*
433R	6*	*for* 120° mesh *read* no. 120 mesh
436L	5	*for* tion *read* tism
451R	18*	*for* (Yu.) *read* (Yu)
454L	11	*for* **16**–416 *read* **16**–418
—	22	*after* argillaceous *add* rocks
—	29	*for* $(OH)_2$ *read* $(OH)_4$
455L	16	*before* 14·9 *insert* Nd
456R	8*	*for* $D^{18}{}_{4h}$ *read* $D^{19}{}_{4h}$
458R	6	*for* *A*2*a* *read* *A*2/*a*
479R	15	*for* Wutachtals *read* Wutachtal
483L	5	*for* d_{100} *read* d_{001}
493R	6	*for* $NaAlSi_3O_8$ *read* $NaAlSi_2O_6$
513L	13*	*for* *b* 12·579 *read* *b* 12·597
514R	14	for *Enstehung* read *Entstehung*
521R	7	*for* Germany *read* German
523L	16*	*for* norstrandite *read* nordstrandite
525L	20	*for* *c* 3·708 *read* *c* 3·078
544R	4*	*after* Hutchinson (G. E.) *add* , & Joensuu (O.)
—	1*	*for* 1152 *read* 1153
547L	5*	*for* **49**–414 *read* **49**–441
547R	9	*for* *c* 9·39Å *read* *c* 9·93Å
548L	22*	*for* Akinovich *read* Ankinovich ; *for* Gekht *read* Hecht
549R	18	*for* **93** *read* **92**
—	5*	*for* Ilokhim *read* Ilyukhin : *for* Илохим *read* Илюхин
550L	15	*for* β=y *read* β=*b*
552R	9*	*after* zirtolite *add* [cyrtolite]
555R	1*	
553L	11	*for* 649–7 *read* 49–76
555L	21	*for* parsonite *read* parsonsite
—	24	*for* concoidal *read* conchoidal
556L	26	*for* $CaB_2O_5.5H_2O$ *read* $CaB_2O_4.5H_2O$
—	20*	*for* endothermic *read* exothermic
557L	17	*for* Редик *read* Редких
557R	20*	*for* 77–88 *read* 77–86
558L	34	*for* 201–211 *read* 210–211
560R	5, 8	*for* fugacites *read* fugacities
574L	5	*for* Germany *read* German
582L	17*	*for* Füchbauer *read* Füchtbauer
598R	1	*for* monominerallic *read* monomineralic
601R	9*	*for* Chatanooga *read* Chattanooga
605L	5*	*for* city *read* City

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PAGE	LINE	
6L	20*	for *jenaer spektralphotometer* read *Jenaer Spektral-photometer*
6R	5*	*for* Norstrand *read* Nostrand
1R	1*	*after* **7**–496 *add* , **16**–132
7R	13	*before* Mesozoic *insert* Early
2R	22	for *dehydraté* read *dihydraté*
4L	1	*after* Gastuche (M. C.) *add* , & Brindley (G. W.)
6L	10	*for* Author's *read* Authors'
9L	13*	*for* Experentia *read* Experientia
4R	3	*for* Sellassie *read* Selassie
6L	12, 13	*for* asymetrical *read* asymmetrical
3L	18	*for* Hsien *read* Hsieh
4L	20	*for* or [310] *read* or [3$\bar{1}$0]
6R	5*	*for* hornesite *read* hörnesite
7R	22*	for VCEGEI *read* VSEGEI
9M	35	*for* — *read* Fujii (T.)
5M	33*	*for* Norstrand- *read* Nordstrand-
6R	38*	*for* norstrandite *read* nordstrandite
9M	11*	
1M	16*	

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4L	20	for *Sierre* read *Sierra*
5L	18*	*for* has *read* have
5L	12*	*for* is *read* are
7L	1	*for* determniation *read* determination
0L	5*	for *Hydroxyimino* read *Hydroxyamino*
3L	18*	*for* 4000 at *read* at 4000
2R	11	*for* Richard C. *read* Richard H.
7L	2	*for* analaysis *read* analysis
8R	8	*for* Kodiakanal *read* Kodaikanal
0L	1*	*for* urfaces *read* surfaces
4L	19*	*for* Power *read* Powder
5R	27*	*before* Fe^{III} *add* (
9L	3	*for* patterns *read* pattern
9R	24, 27, 39	*for* Cuyana *read* Cuyuna
0R	13	*for* 1964 *read* 1963
2L	16	*for* P_2P_5 *read* P_2O_5
—	20*	*for* B. Brunn *read* B. Bruun
3R	10*	*for* 413 *read* 414
4L	14	*for* magnesite *read* magnetite
4R	20*	*for* $Pb_2(Sb,As)S_5$ *read* $Pb_2(Sb,As)_2S_5$
5L	2*	*after* Акад. *add* Наук
6R	15	*for* kutnohorite *read* kutnahorite ; *for* **40**–7 *read* **40**–748
7L	18*	*for* Двкл. *read* Докл. ; *after* Акад. *add* Наук
7R	7*	*for* $Y_2Be_2S_2O_2(OH)_2$ *read* $Y_2Be_2Si_2O_8(OH)_2$
8L	9*	*for a* 12·211 *read a* 12·011
2R	14	*for* arely *read* ately
4R	22	*for* 1963 *read* 1964
8L	4*	*for* Tota *read* Total
2L	4*	*for* 1·7008α *read* 1·7008*a*
6L	7	*for* scoria *read* scoriae
—	14	for *pyroxéne* read *pyroxène*
6L	1*	*for* [=99·99. *read* [=99·99].
0R	10	for *mètallogenie* read *métallogénie*
—	12*	*for* tadiating *read* radiating
7R	3	*for* allyed *read* ally
4L	5*	*for* (A.W.K.) *read* (A.W.G.)
0L	13	*for* 10^9 *read* 10^3
2R	5*	for *palaeographic* read *palaeogeographic*
4R	26	*for* 34×10^3 yr. *read* 34×10^3 m.y.
2R	11	*after* bart'sche *add* Verlag
—	15	*for* W.F. *read* W.H.
—	13*	*for* incorrent *read* incorrect
4R	1	*for* Dwornok (E. J.) *read* Dwornik (E. J.)
9L	9	*for* Cristallographique *read* Cristallographie
4R	12*	*for* (P.U.) *read* (P.V.)
7L	4*	*for* Re., *read* Re,
9L	6	for *Golduranlayerstätten* read *Golduranlagerstätten*
9R	17*	for *Untersuchungen* read *Untersuchungen*
—	14*	*for* grun *read* grün
2R	13	for *uranlagerstätte* read *Uranlagerstätte*
7L	17	*for* 630 C *read* 630°C
—	14*	*for* $Ca(H_2PO_4).H_2O$ *read* $Ca(H_2PO_4)_2.H_2O$

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PAGE	LINE	
159R	20	*for* colorimetry *read* calorimetry
165L	14*	for *under* read *und*
167R	14	*for* plays *read* play
174L	8*	*for* meteoric *read* meteoritic
176L	5	*for RE read* RE_2O_3
176R	8	*for* in Hungary *read* [Baia Sprie, Romania]
179L	8	*for* 10·078 *read* 10·978
186R	14*	*for* Mukherje *read* Mukherjee
187L	20	*for* Uinkareet *read* Uinkaret
201L	18	*for* analyses *read* analysis
206R	22	*for* 4·58–5·63 *read* 4·58–4·63
208R	8	*for* melteigeite *read* melteigite
212R	4	*for* have *read* has
—	23*	for *fur* read *für*
214R	14*	*for* El-Hinnawai *read* El-Hinnawi
218L	17*	*for* speeimen *read* specimen
221R	19*	*for* George *read* Gorge
224L	18*	for *phénomenès* read *phénoménes*
225R	21	*for* (P.M.) *read* (D.M.)
228R	8*	*for* Ll. A. *read* U. A.
230R	18	*for* schists *read* schist
231R	8	*for* Stassfurth *read* Stassfurt
232L	18*	*for* nμ *read* μ
233R	19*	*for* Lloyd (W. Staples) *read* Staples (L. W.)
237L	22*	for *áges* read *áges*
238R	17*	*after* Hart (S. R.) *add* , & Roedder (E.)
240L	15	*for* Zadorzhnyi (N. K.) *read* Zadorzhnyi (N.[I.] K.)
243L	2	*after* (6), *add* 70–71,
256L	14*	*for* $R\bar{3}c$ *read* $K\bar{3}$
256R	13	*for* 1548 *read* 1549
—	17	*for* a 13·390 *read a* 14·390
257L	28	*for* $C^9{}_2o$ *read* $C^9{}_{2v}$
259R	10*	*for* Paper 1 *read* Paper **1**
264R	16*	*for M3m read m3m*
268L	20*	*for* Hewitt *read* Hewett
269L	20*	*for* Sellassie *read* Selassie
272R	9*	*for* chertz *read* cherty
273L	28	*for* Phlogopite *read* Lepidolite
274R	12	*for* Mississipian *read* Mississippian
278R	18*	*for* Barnes *read* Barns
—	17*	for *aluminium* read *aluminum*
—	11*	*for* thallium *read* thulium
279R	10*	*for* molydates *read* molybdates
290L	4	*for* Fe_2S *read* FeS_2
—	20	*for* iron *read* ion
292R	25	*for* 1·224 g/cm³ *read* 1·224
293L	13*	*for* heaving *read* heavy
296L	1	*for* Picot (R.) *read* Picot (P.)
—	14	*after* Fredriksson (Kurt) *add* & Andersen (C. A.) ; for *analysis* read *analyses*
—	17*	*for* t{111} *read* t{$\bar{1}$11}
—	16*	*for* V{101} *read* Y{101}
296R	9	*delete* $Tr_{0\cdot021}$ (from the formula)
297L	11*	*for* 1·519–1·520 *read* 1·519–1·529
—	5*	*for* Neumann-Sellevoll *read* Neumann & Sellevoll
299L	17*	for *on* read *of*
299R	4*	*for* 30°30′ *read* 39°30′
301R	1	*for* indexe pX- *read* indexed X-
302R	4*	*for* геод *read* геол
303L	24	*for* geol. *read* géol.
304L	5	*for a* 7·33 *read a* 7·23
—	12	*for* $TR(CO_2)(OH,F)$ *read* $TR(CO_3)(OH,F)$
308L	20*	*for* Humbolt *read* Humboldt
308R	23*	for *west* read *West*
310L	17*	for *grantio* read *granito*
312L	2	*for* geol. *read* géol.
—	20	*for D* 3·94 *read D* 3·394
312R	4	for *on* read *of*
—	7	*for* Manavalakurchi *read* Manavalakurichi
313R	21	for *Lherzolitkörpen* read *Lherzolitkörpern*
314L	16, 22	*after* 1964, *add* **13**,
317L	7	*for* downed *read* drowned
—	13*	*for* Mt. Segesta *read* Mt. Barbaro
318R	14*	for *do* read *de*
319R	6	*for* postmagnmatic *read* postmagmatic
—	13	*for* iu *read* in

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PAGE	LINE	
320R	10*	*for* Islands *read* islands
321L	19*	*for* sensu latu *read* sensu lato
322R	6	*for* WATZENAUER *read* WATZNAUER
326R	17	*for* LOOF *read* LOOFF
—	19	*add* Journ. Sedim. Petr., 1964, **34**, 774–776.
330L	21	*for* Graupetonstein *read* Graupentonstein
—	1*	*for* Brandenberg *read* Brandenburg
334L	8	*for* MOILOA *read* MOIOLA
334R	23*	*for* H. W. *read* H. I. W.
336R	25	*for* γ–ϖ *read* γ–α
—	8*	*for* (J.A.R.) *read* (A.J.R.)
340L	28	*for* patchee *read* patches
360R	1	*for* SHIBAYEVA (R. I.) *read* SHIBAYEVA (R. I.[P.])
368L	14	for *Visakhapatanam* read *Visakhapatnam*
393L	21	*for* rhodocrosite *read* rhodochrosite
—	11*	*for* Brazilian *read* Bolivian
396R	6*	*for* brasilianite *read* brazilianite
411R	2	*for* (H.D.) *read* (R.D.)
412L	26*, 29*	*for* Viborg *read* Vyborg
510R	17	*for* Lage *read* Lake
522L	15*	for *Dawin* read *Darwin*
530L	17	for *Limstone* read *Limestone*
566R	5*	*for* Westmorland *read* Westmoreland
575L	22	*for* Phillipsburg *read* Philipsburg
576R	24	for *Ahlfeldtit* read *Ahlfeldit*

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PAGE	LINE	
—	21*	*for* ahlfeldtite *read* ahlfeldite
607R	4*	*for* LYAKLOVICH *read* LYAKHOVICH
615L	18*	*for* IVANOV (D. I.) *read* IVANOV (D. I.[N.])
617R	22*	*for* magacrysts *read* megacrysts
633L	9	*for* LUPANOVA (N. P.) *read* LUPANOVA (N.[I.] P.)
639R	1	*for* MAAS (R.) *read* MAASS (R.)
668L	19	for *ithium* read *lithium*
676L	16*	*for* SERYUKH *read* SERYKH
685L	21	*for* BUCKWALD *read* BUCHWALD
693R	22	for *Datolit.* read *Datolite*
—	23	*for* Journe *read* Journ.
696L	15–16	*for* phosphorochromite *read* phosphochromite
703L	7	*for* Zeredinsk *read* Zerendinsk
714L	14	*for* 'magicno' *read* 'macigno'
716L	1	*for* KARCZ (I.) *read* KARCZ (Y.)
—	5	*for* KARCZ (U.) *read* KARCZ (Y.)
719L	11*	for *Ialy* read *Italy*
723L	6	*for* LÁZNČIKA *read* LÁZNIČKA
732L	6*	for *Concep-* read *Concepción*
749R	1	*for* PACHADZHANOV (A. N.) *read* PACHADZHANOV (A.[D.] N.)
754R	23	for *rosks* read *rocks*
760R	3*	*for* Modoia *read* Mokoia
774R	23	after *Swiety* add *Krzys*
780L	23	*for* Malwai *read* Malawi

ABBREVIATIONS USED IN REFERENCE TO PUBLICATIONS

Abhdl.	Abhandlungen
Abstr.	Abstract, -s
Abt.	Abteilung
Acad., Accad., Akad.	Academy, & *equiv.*
Adv.	Advancement
Agric.	Agricultur-al, -e
Anal.	Analy-st, -tical, & c.
Ann., An.	Annals, Anales, & *equiv.*
Anorg.	Anorganisch
Appl.	Applied
Arch.	Archives
Assoc., Assoc.	Association, & *equiv.*
Astron.	Astronomical
Bd.	Band
Beitr.	Beiträge
Ber.	Bericht-e
Berg.	Bergwesen
Bol., Boll., Bull.	Bulletin, & *equiv.*
Bur.	Bureau
Ceram.	Ceramic, & *equiv.*
Chem., Chim.	Chemi-cal, -stry, & *equiv.*
Cien.	Ciencia, -s
Circ.	Circular
Cl.	Classe
Cold.	Coloured
Com.	Comisiòn
Comm.	Commission
Conf.	Conference, & *equiv.*
Congr.	Congress, & *equiv.*
Contr.	Contributions
C.R.	Comptes Rendus
Crist., Cryst.	Crystallograph-ical, -y & *equiv.*
Dept.	Department, & *equiv.*
Diss.	Dissertation
Divn.	Division
Dokl.	Doklady=C.R.
Econ.	Economic
Educ.	Education
Eng.	Engineering
Exped.	Expedition
Exper.	Experimental
Expl.	Exploration
Fac.	Faculty
Fig(s).	Figure(s)
Fis.	Fisicale, fisico
Fören.	Föreningen
Förh.	Förhandlinger
Fortsch.	Fortschritt, -e
Gen.	General
Geol., géol.	Geolog-y, -ical, -ist, & *equiv.*
Gesell.	Gesellschaft
Geo-chem., -chim.	Geochemi-cal, -stry, &c.
Geophys., geofis.	Geophysic-al, -s, &c.
Govt.	Government
Hdbh.	Handbuch
Illustr.	Illustrat-ed, -ions
Imp.	Imperial
Industr.	Industr-ial, -y
Inform.	Information
Inst.	Institute, institution, & *equiv.*
Instr.	Instruments
Int.	Interior
Intern.	International
Invest.	Investigations
Issl.	Issledovaniye=investigation
Ist.	Istituto
Izd.	Izdanie=publication
Izvest.	Izvestiya
Jahresb.	Jahresbericht
Jahrb.	Jahrbuch
Jorn., Journ.	Journal, & *equiv.*
Khim.	Khim-ie, &c.
Kl.	Klasse
Krist.	Kristallographie, &c.
Lab.	Laboratory
Lit.	Literary
Mag.	Magazine
Mat., Math.	Mathematical, & *equiv.*
Medd.	Meddelelser
Mem., Mém.	Memoir, -s, & *equiv.*
Metall.	Metallurg-ical, -y
Min.	Mineralog-ical, -ist, -y
Misc.	Miscellaneous
Mitt.	Mitteilungen
Mh.	Monatsheft
Mus., Muz.	Museum, & *equiv.*
Nac., Nat., Naz.	National, & *equiv.*
Natur.	Natur-al, -alist, & *equiv.*
Natur-w, -v.	Naturwissenschaft, & *equiv.*
Obraz.	Obrazovanie=education
Obshch.	Obshchestva=society
Petr.	Petrolog-ical, -y, & *equiv.*
Petrol.	Petroleum
Phil.	Philosophical, &c.
Photos.	Photographs
Photomicros.	Photomicrographs
Phys.	Physic-al, -s, & *equiv.*
Pl(s).	Plate(s)
Polytech.	Polytechnic, & *equiv.*
Pract., Prakt.	Practical, & *equiv.*
Proc.	Proceedings
Prof.	Professional
Prosp.	Prospecting
Publ.	Publication(s), published
Rasv.	Razvedka=survey
Rec.	Records
Ref.	References, referata
Rend.	Rendiconti
Repb.	Republic
Rept.	Report(s)
Res.	Research
Reserv.	Reserves
Resrcs.	Resources
Rdsch.	Rundschau
Rev.	Review
Roy.	Royal, & *equiv.*
Sborn.	Sbornik=magazine
Sch.	School, Schule
Sci.	Science
Sect.	Section
Sedim.	Sedimentary
Ser., sér.	Series, & *equiv.*
Serv.	Service
Sitzb.	Sitzungsbericht
Skr.	Skrift, -en, -er
Soc.	Society, & *equiv.*
Sondbd.	Sonderband
Spec., spez.	Special, & *equiv.*
Stand.	Standard(s)
Stn.	Station
Suppl.	Supplement
Surv.	Survey, -or
Symp.	Symposium
Tab(s).	Table(s), tabellen
Techn.	Technolog-ical, -y
Tids(s)kr.	Tids(s)krift, -en
Tijdschr.	Tijdschrift
Trab.	Trabajos
Trans.	Transactions
Transl.	Translat-ed, -ion
Uch.	Uchennye=learned
Ucheb.	Uchebnyi=teaching
Uncold.	Uncoloured
Unders.	Undersögelse, undersökning
Univ.	University, & *equiv.*
Verhdl.	Verhandlungen
Vidensk.	Videnskaps
Volc., Vulk.	Volcanolog-ical, -y, &c.
Vses.	Vsesoyuznyi=All-Union
Vyssh.	Vysshikh=higher
Wiss.	Wissenschaft
Zap.	Zapiski=memoirs
Zav.	Zavodskaya=factory
Zaved.	Zavedenii=institution
Zeits.	Zeitschrift
Zhurn.	Zhurnal=journal
Ztg.	Zeitung

ABBREVIATIONS AND SYMBOLS

used in the text of abstracts

M.M. ... Mineralogical Magazine : M.A. ... Mineralogical Abstracts : A.M. ... American Mineralogist

CHEMICAL & PHYSICAL-CHEMICAL

cation-exchange-capacity	c.e.c.
concentrated	conc.
differential thermal analysis	d.t.a.
dilute	dil.
equivalent U_3O_8	eU_3O_8
ethylenediaminetetra-acetic acid	EDTA
heat of formation (absolute temperature subscript)	ΔH_t
hydrogen ion conc., acidity	pH
insoluble residue	insol. res.
isotopes, e.g.	^{40}Ar, ^{40}K
loss on ignition	ign. loss
milliequivalent	me.
microgramme	μg
million-years	m.y.
not determined	n.d.
not found	nt. fd.
not present	nil
parts per million	p.p.m.
rare earths	*TR* or *RE*
strength of solution, normal	*N*
— — — molar	*M*
substances in ionic state	
anions, e.g.	Cl^-, SO_4^{2-}
cations, e.g.	K^+, Fe^{3+}
thermogravimetric analysis	t.g.a.
trace	tr.

CRYSTALLOGRAPHIC & STRUCTURAL

Ångstrom unit (10^{-8} cm)	Å
crystal axes	*a*, *b*, *c*
— face indices	(hkl)
— form indices	{hkl}
— zone indices	[hkl]
indices of X-ray diffractions	hkl
intensity,	*I*
— relative	I/I_0
interplanar spacing	*d*
mica structural polymorphs	$1M_1$, $2M_1$
Siegbahn units	kX
space group. These words will be written in full	
unit cell, formula units	*Z*
— — repeat distances	*a*, *b*, *c*
— — reciprocal lattice lengths of edges	*a**, *b**, *c**
— — interaxial angles direct lattice	α, β, γ
— — — — reciprocal lattice	α^*, β^*, γ^*

OPTICAL

dispersion, e.g.	$r > v$
extinction angle, e.g.	$\gamma : c$
optic axial angle	2V
— — plane	O.A.P.
refractive index, in text	refr. ind.
— — of isotropic mineral	*n*
refractive indices	
of uniaxial mineral	ω, ϵ
of biaxial mineral	α, β, γ
sign of biaxiality	
negative	$2V_\alpha$ or —
positive	$2V_\gamma$ or +

PHYSICAL

calculated	calc.
calorie	cal.
calorie, large	kcal.
cycles per second	c/s
degree centigrade	°C
density	*D* (quote units)
— , relative, e.g.	D_4^{20}
gramme	g
hardness	H.
melting-point	m.p.
micron (10^{-4} cm)	μ
millimicron (10^{-7} cm)	mμ
pounds per square inch	lb/in.^{2}
pressure	*P*
soluble	sol.
specific gravity, terms of reference not known	sp. gr.
temperature	*T*
wavelength	λ

SYMBOLS

approximately equal to	$\sim$
equal to	$=$
equal to or greater than	$\geqslant$
equal to or less than	$\leqslant$
greater than	$>$
less than	$<$
not equal to	$\neq$
parallel to	$\parallel$
per cent.	%
per mille	‰
perpendicular to	$\perp$
proportional to	$\propto$